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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,803	11/04/2003	Masahiro Yoshida	1248-0677P	4032

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

SHERMAN, STEPHEN G

ART UNIT PAPER NUMBER

2629

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/699,803

Applicant(s)

YOSHIDA, MASAHIRO

Examiner

Stephen G. Sherman

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. Figure 25 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2, 4, 6-7, 9, 11-12, 14 and 16 are rejected under 35 U.S.C. 102(a) as being anticipated by AAPA (Figure 25 and page 1, line 10 to page 5, line 9 of the specification.).

***Regarding claims 1, 6 and 7***, AAPA discloses an active matrix substrate, a display comprising an active matrix substrate and a display comprising display panels each including an active matrix substrate (Figure 25 shows a twin-panel display 181 as explained on page 1, line 12 to page 2, line 2. The main panel 182 includes a TFT substrate 184 as explained on page 2 lines 3-5 and the sub-panel 183 includes a TFT substrate 186 as explained on page 3, lines 1-2.) comprising:

first bus lines and second bus lines arranged to form a matrix (Figure 25 shows that source bus lines 189 and gate bus lines 188 are arranged to form a matrix.);

devices provided near respective intersections of the first bus lines and the second bus lines (Figure 25 shows that TFTs 192 are laid out near the intersections of the gate bus lines 188 and the source bus lines 189 as explained on page 2, lines 10-12.); and

switching pixel electrodes electrically connected to the first bus lines and the second bus lines through the switching devices (Page 2, lines 12-18 explain that the pixel electrode is connected to the first and second bus lines through TFTs 192.), wherein:

at least one of the first bus lines has a first capacitance formed thereon (Page 4, line 18 to page 5, line 1 explain that the source bus lines in the group 196 shown in Figure 25 have a capacitance of 20 pF formed on them.); and

the first bus lines, except for the at least one first bus line with a first capacitance, are connected to first bus lines on another active matrix substrate (Figure 25 shows that

the group 195 of source bus lines which does not include the first group 196 containing the 20 pF are connected to the source bus lines of the active matrix substrate 187.).

**Regarding claim 2**, AAPA discloses the active matrix substrate as set forth in claim 1, wherein the at least one first bus line (Figure 25, group 196) with a first capacitance (20 pF as explained in the rejection of claim 1.) is connected to a line connected to no pixel electrode on the other active matrix substrate (Figure 25 shows that the group 196 of source bus lines 189 are connected to the gate bus lines 188 which are not connected to a pixel electrode of the active matrix substrate 187.).

**Regarding claim 4**, AAPA discloses the active matrix substrate as set forth in claim 1, wherein the first bus lines are connected to a source driver (Figure 25 shows that the first bus lines 189 are connected to the source driver 191.), and the second bus lines are connected to a gate driver (Figure 25 shows that the second bus lines 188 are connected to the gate driver 190.).

**Regarding claim 9**, this claim is rejected under the same rationale as claim 4.

**Regarding claim 11**, AAPA discloses the display as set forth in claim 7, wherein one of the display panels is designated as a main panel (Figure 25, main panel 182), and the display panels, except for the main panel, are designated as sub-panels having less display pixels than the main panel (Figure 25, sub-panel 183).

**Regarding claim 12**, please refer to the rejection of claims 1, 6 and 7, and further more AAPA discloses wherein:

the first bus lines are shared for use among the display panels (Figure 25, the group 195 of first bus lines 189 are shared between the display panel 182 and display panel 183.);

in at least one of the display panels, at least one of the first bus lines is connected to none of the pixel electrodes on the active matrix substrate (Figure 25 shows that group 196 of first bus lines 189 are not connected to pixel electrodes on panel 183.); and

the at least one first bus line connected to none of the pixel electrodes has a first capacitance formed thereon (Page 4, line 18 to page 5, line 1 explain that the source bus lines in the group 196 shown in Figure 25 have a capacitance of 20 pF formed on them.).

**Regarding claim 14**, this claim is rejected under the same rationale as claim 4.

**Regarding claim 16**, this claim is rejected under the same rationale as claim 11.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 3, 5, 8, 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Figure 25 and page 1, line 10 to page 5, line 9 of the specification.) in view of Kurashima et al. (US 6,954,184).

***Regarding claim 3***, AAPA discloses the active matrix substrate as set forth in claim 1.

AAPA also discloses that each of those first bus lines connected to the second active matrix substrate (Group 195 are a part of the first bus lines 189 connected to the sub-panel 182.) has a second capacitance formed thereon from the sub-panel 183

which is less than the first capacitance (Page 4, line 18 to page 5, line 1 explain that the group 195 has a capacitance of 10 pF formed on them from the sub-panel 183 which is less than the contributing first capacitance, 20 pF, of the main panel 182.).

AAPA fails to disclose that the group of first bus lines connected to the second active matrix substrate have no first capacitance formed thereon.

Kurashima et al. disclose a drive IC for driving different displays which can be shared where no scanning signal is supplied to the main display 1A shown in Figure 5 when a scanning signal is sent to the sub-display 2A as explained in column 10, lines 34-40.

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the method of only supplying scanning signals to the sub-display when the sub-display data is being written as taught by Kurashima et al. with the active matrix substrate taught by AAPA such that the capacitance of 20 pF caused by the main panel would not be caused to effect the sub-panel meaning that the second group pf lines would contain 10 PF which is less than the first capacitance of 20 pF, in order to reduce the power consumed by the display when the panels are concurrently driven.

**Regarding claim 5**, AAPA discloses the active matrix substrate as set forth in claim 1.

AAPA fails to teach wherein the first bus lines are connected to a gate driver, and the second bus lines are connected to a source driver.



Kurashima et al. discloses that although wires are shared to which a scanning signal is supplied (Figure 13 and column 20, lines 22-28.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to make the first bus lines as taught by AAPA to be the ones connected to the gate driver as taught by Kurashima et al. such that the scanning lines would be the lines shared among the two display panels in order to allow for an alternative arrangement to be used for the placement of the sub-panel.

***Regarding claim 8***, this claim is rejected under the same rationale as claim 3.

***Regarding claim 10***, this claim is rejected under the same rationale as claim 5.

***Regarding claim 13***, this claim is rejected under the same rationale as claim 3.

***Regarding claim 15***, this claim is rejected under the same rationale as claim 5.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

20 April 2006

AMR A. AWAD  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", with a stylized flourish at the end.